



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/656,178      | 09/08/2003  | Kazuhiro Kuroda      | 117049              | 8399             |

25944 7590 10/03/2007  
OLIFF & BERRIDGE, PLC  
P.O. BOX 19928  
ALEXANDRIA, VA 22320

EXAMINER

DUONG, THANH P

|          |              |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

1764

|           |               |
|-----------|---------------|
| MAIL DATE | DELIVERY MODE |
|-----------|---------------|

10/03/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/656,178

Applicant(s)

KURODA ET AL.

Examiner

Tom P. Duong

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS; WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 23 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 9-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 9-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### **Continued Examination Under 37 CFR 1.114**

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 23, 2007 has been entered.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 12 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 13, the term "the neighboring support elements" lacks proper antecedent basis.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 12 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Publication Number 09-317452 (hereinafter JPN '452).

Regarding claim 12, JPN '452 an exhaust-gas purifying apparatus (Fig. 3), comprising: a mantle (41); a support (43) disposed in the mantle, and formed as at least one shape selected from the group consisting of cylinder shapes and corrugated shapes (Figs. 5, 7, and 8); and a catalytic layer loaded on at least one of the surfaces of the support (Section 0013), wherein the support comprises at least two support elements disposed in the axial direction of the mantle (Figs. 2 and 3), and wherein the at least two support elements are disposed out of phase with each other in the peripheral direction of the mantle (Figs. 2 and 3).

Regarding claim 15, JPN '452 discloses the support elements include a plurality of through holes (Section 0027-0028).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1764

3. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over JPN '452. JPN '452 discloses the support elements with various shapes (Figs. 5 and 7) but is silent with respect to the support elements include a "C"-shaped cross section. However, it would have been an obvious matter of design choice to one having ordinary skill in the art to fabricate the support shape including the "C"-shaped support in the apparatus of JPN '452 on the basis of its suitability for the intended use, absence showing any unexpected results and since it has been held that when the only difference between the prior art device and the claim was a recitation of relative shape, and the device with the relative shape would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device. See *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

4. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over JPN '452 in view of Strader (4,203,502). JPN '452 essentially discloses the features of the claimed invention except neighboring support elements are disposed at predetermined intervals in the axial direction of the mantle. Strader '502 teaches the conventionality of providing a series of support elements or tubes (18) at predetermined intervals in the axial direction of the mantle (11), Fig. 2. Such configuration provides the advantage of canceling and absorbing vibrations present in the exhaust gas stream, which reduces the noise in the exhaust gases. Thus, it would have been obvious in view of Strader '502 to one having ordinary skill in the art to duplicate additional neighboring support

Art Unit: 1764

elements at predetermined intervals as taught by Strader 502 in the device of JPN '452 in order to suppress the noise in the exhaust gases.

5. Claims 1-2 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over JPN '452 in view of Strader (4,203,502).

Regarding claim 1, JPN '452 discloses an exhaust-gas purifying apparatus (Fig. 3), comprising: mantle (41); a support (43) disposed in the mantle; a catalytic layer loaded on at least one of the surfaces of support (Section 0013); wherein the support comprises at least two support elements (Fig. 3) that are in contact with and are bonded to an inner peripheral surface of the mantle (Section 0015 and 0032), the two support elements being disposed in the axial direction of the mantle.

JPN '452 discloses the corrugated supports are formed of various shapes (Figs. 5 and 7) but is silent with respect to support with "W"-shaped support. However, it would have been an obvious matter of design choice to one having ordinary skill in the art to fabricate the support shape including the "W" shape support in the apparatus of JPN '452 on the basis of its suitability for the intended use, absence showing any unexpected results and since it has been held that when the only difference between the prior art device and the claim was a recitation of relative shape, and the device with the relative shape would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device. See *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

JPN '452 fails to disclose the two support elements neighboring the axial direction the mantle are disposed out of phase with each other in the peripheral direction of the mantle.

Strader '502 teaches that a plurality of gas conduits in each of the chambers A, B, and C in the axial direction. Strader shows the last chamber (Fig. 6) with tubes or supports (32, 28, 30) are out of phase with respect to the previous chamber C (Fig. 5) with tubes 28, 30, and 26 in axial direction of the outer cylinder (11). Such configuration suppresses the audible vibrations of the exhaust gas (Col. 1 – Col. 2) prior to leaving the muffler. Thus, it would have been obvious in view of Strader '502 to one having ordinary skill in the art to modify the apparatus of the JPN '452 with the configuration of a cylinder support groups as taught by Strader '502 in order to reduce the sound level of the exhaust gases.

Regarding claim 2, JPN '452 discloses the support comprise three or more support elements, and the three or more support elements are disposed out of phase with each other in the peripheral direction of the mantle (Figs. 3 and 4);

Regarding claim 9, JPN '452 appears to disclose the support elements being metallic being the facts that JPN '452 discloses the components can be welded together (Section 0015 and 0032).

Regarding claim 10, JPN '452 discloses the support elements are formed of a perforated steel plate having a plurality of through holes (Section 0027-0028).

Regarding claim 11, JPN '452 discloses the mantle is an exhaust pipe (40).

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1-2, 9-13, and 15 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 3-7, and 10 of copending Application No. 10/656,121. Although the conflicting claims are not identical, they are not patentably distinct from each other because the copending application claims substantially the same subject matter as the instant application. The term "mantle" of the instant claim is an obvious alternative language to the term "outer cylinder" of the copending application. The copending application fails to disclose the specific "W" -shaped support; however, it would have been an obvious matter of design choice to one having ordinary skill in the art to fabricate the support shape including the



"W" -shape support in the apparatus of JPN '452 on the basis of its suitability for the intended use, absence showing any unexpected results and since it has been held that when the only difference between the prior art device and the claim was a recitation of relative shape, and the device with the relative shape would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device. See *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Response to Arguments***

Applicant's arguments filed July 23, 2007 have been fully considered but they are not persuasive.

(1) Applicants argue that "JPN '452 neither teaches nor suggests that neighboring support elements in the axial direction are "out of phase with each other" in the peripheral direction of the mantle." Examiner agrees that JPN '452 alone fails to disclose such feature; however, Strader '502 teaches the claimed feature. As described in paragraph 5, Strader '502 teaches that a plurality of gas conduits in each of the chambers A, B, and C in the axial direction. Strader shows the last chamber (Fig. 6) with tubes or supports (32, 28, 30) are out of phase with respect to the previous chamber C (Fig. 5) with tubes 28, 30, and 26 in axial direction of the outer cylinder (11). Such configuration suppresses the audible vibrations of the exhaust gas (Col. 1 – Col. 2) prior to leaving the muffler. Thus, it would have been obvious in view of Strader '502 to one having ordinary skill in the art to modify the apparatus of the JPN '452 with the

Art Unit: 1764

configuration of a cylinder support groups as taught by Strader '502 in order to reduce the sound level of the exhaust gases. Note, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

(2) Applicants argue that "the support comprises at least two support elements that are *in contact with and are bonded to an inner peripheral surface of the mantle*, the two support elements being disposed in the axial direction of the mantle." This feature was incorporated into claim 1 from canceled claim 8, which was not part of the double patenting rejection. Therefore, because claim 1 contains subject matter that is distinct from the co- pending application, withdrawal of the provisional double patenting rejection is respectfully requested. Examiner respectfully disagrees. Claims 1 and 4 of the copending application 10/656,121 disclose the same subject matter of the instant claim 1.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom P. Duong whose telephone number is (571) 272-2794. The examiner can normally be reached on 8:00AM - 4:30PM (IFP).

Art Unit: 1764

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

September 24, 2007  
Tom Duong

A handwritten signature in cursive script, reading "Tom Duong".